FORM PTO-1390 (Modified) (REV 11-2000)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		214946US2PCT
		U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 09/926360

INTERNATIONAL APPLICATION NO. PCT/FR00/01023	INTERNATIONAL FILING DATE 19 April 2000	PRIORITY DATE CLAIMED 20 April 1999

TITLE OF INVENTION
PAYMENT SYSTEM FOR SOFTWARE PROGRAM USE

APPLICANT(S) FOR DO/EO/US
PAILLES Jean-Claude et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include itens (5), (6), (9) and (24) indicated below.

4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).

5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))

    a. ☐ is attached hereto (required only if not communicated by the International Bureau).

    b. ☒ has been communicated by the International Bureau.

    c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).

6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).

    a. ☒ is attached hereto.

    b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).

7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))

    a. ☐ are attached hereto (required only if not communicated by the International Bureau).

    b. ☐ have been communicated by the International Bureau.

    c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.

    d. ☒ have not been made and will not be made.

8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).

9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).

10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).

12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.

14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

15. ☐ A **FIRST** preliminary amendment.

16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.

17. ☐ A substitute specification.

18. ☐ A change of power of attorney and/or address letter.

19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.

20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).

21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).

22. ☐ Certificate of Mailing by Express Mail

23. ☒ Other items or information:

    Request for Consideration of Documents Cited in International Search Report/Request for Priority PCT/IB/304/Drawings (2 Sheets)/PCT/IB/308

PCTUS1/REV03

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 37)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/926360	PCT/FR00/01023	214946US2PCT

24. The following fees are submitted:.	CALCULATIONS PTO USE ONLY

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1040.00**

☒ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$890.00**

☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$740.00**

☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$710.00**

☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**

ENTER APPROPRIATE BASIC FEE AMOUNT =   **$890.00**

Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☒ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).   **$130.00**

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	22 - 20 =	2	x $18.00	**$36.00**	
Independent claims	4 - 3 =	1	x $84.00	**$84.00**	
Multiple Dependent Claims **(check if applicable).**			☐	**$0.00**	

TOTAL OF ABOVE CALCULATIONS   =   **$1,140.00**

Applicant claims small entity status. See 37 CFR 1.27). The fees indicated above are reduced by 1/2.   **$0.00**

SUBTOTAL =   **$1,140.00**

Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).   +   **$0.00**

TOTAL NATIONAL FEE   =   **$1,140.00**

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **(check if applicable).**   ☐   **$0.00**

TOTAL FEES ENCLOSED   =   **$1,140.00**

Amount to be: refunded	$
charged	$

a. ☒ A check in the amount of   **$1,140.00**   to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. _____**15-0030**_____ A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.
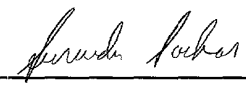
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

22850

Surinder Sachar
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SIGNATURE
_____
SIGNATURE

Marvin J. Spivak
NAME

24,913
REGISTRATION NUMBER

Oct. 19 2001
DATE

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PAYMENT SYSTEM FOR SOFTWARE PROGRAM USE

DESCRIPTION

5 **Field of the invention**

The purpose of the present invention is to provide
a payment system for software program use. This
software may be of any type and may, for example, be
recorded on media such as CD-ROM (Compact Disc Read-
10 Only Memory) or DVD-ROM (Digital Versatile Disc Read-
Only Memory), or else be downloaded.

It may relate to scientific calculations, games
and computer-assisted techniques as well as word-
processing, etc.

15

Background of the invention

CD-ROMs are currently the main method of software
program distribution, and will very shortly be replaced
by the DVD-ROM. For software editors, illicit copying
20 of their software is becoming an increasingly serious
problem. Although for some time the CD-ROM format
prevented the copying of software onto blank disks,
user-recordable disks and CD burners are now accessible
in the mass consumer market; the same phenomenon will
25 undoubtedly also not take long to arrive with DVD
technology.

Another potential method of software distribution,
although less commonly used for performance reasons, is
downloading. This method is not suitable for games
30 requiring large numbers of images or three-dimensional
scenes. On the other hand, it can be highly suitable in

SP 16448.C/RS

other cases, such as many software programs (program compilers, editors etc.). In general, these software programs are free, as, because of their small size (enabling them to be downloaded), they can be very
5 easily copied from one computer to another.

Furthermore, it is clear that the high purchase price of a software program often acts as a deterrent to users. The cost of the CD-ROM disk and its burning is a very small factor in that price. In reality, the
10 high purchase price of current CDs/DVD-ROMs mainly corresponds to payment for the software editors and games distributors.

These observations lead us to the conclusion that there is a need for per-use, per-period or per-session
15 payment for software on CD/DVD-ROM media or downloaded software. Software editors would then receive payment from a much wider customer base, based on the use the customer makes of that software. Globally, such a process should rather increase sales in the software
20 industry. In addition, there would no longer be any reason to copy the software medium, as it would in any event be necessary to pay to use the software.

However, there are currently no reliable and sure means of ensuring payment for software program use. The
25 aim of the present invention is to remedy precisely that lack.

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SP 16448.C/RS

Description of the invention

A payment system for software program use must fulfil at least three functions:

- controlling the software's use, each time that software is run, periodically or whenever a particular event occurs in the software (such as changing "worlds" in a game, changing to the second act in a play or film, etc.); the software must then request payment;

- recording the number of times the software is used, to impose payment by the user; if the user accepts the payment request, that request must be recorded securely so that the user is obliged to pay later. Security features must prevent the user from erasing his/her debts, and it must be possible to total small amounts within the deferred payment so that the user can periodically be presented with an overall bill (each month, for example), both for practical reasons but also because of the cost of recovering such small amounts;

- periodically transferring to the software editor the amount owed.

These functions must be performed while catering for certain constraints:

- the CD-ROMs may be foreign: a software payment system must therefore include cross-border characteristics and so mechanisms able to be deployed internationally, as well as being internationally recognised by the standardisation committees;

- there must be a standard interface between software and the means of payment so that a software developer

does not have to program the payment logic corresponding to use of this software himself/herself;

- the system that records the number of times the software is used must be able to trigger international payments to pay software editors in any country worldwide;

- it must be possible to accumulate user payments and transfers to the software editors; as already said, this is aimed at simplifying payments but is also in order to reduce banking charges; notably, in the case of transactions with foreign countries it would be inefficient (or even financially detrimental), from the expense point of view, to make too many transfers of small sums.

The present invention meets all these requirements and caters for all these constraints. To this end, the system in the invention is made up of a payment module and a means of message and payment processing. Furthermore, the software whose use is to be controlled includes a software interface. The functions of these means are as follows:

- the software interface is capable of composing a first message offering use of the software; this first message notably contains the software editor's identity, the offer parameters and the editor's digital signature for at least part of the software offered, and is sent to the payment module;

- the payment module is capable of receiving this first message, displaying it, receiving the software user's

acceptance should he/she so accept, and, if so, composing a second message requesting payment, notably containing the identity of the user and of the software editor together with proof that the user accepts the offer; this module is capable of sending this second message to the means of processing;

- the means of message and payment processing are able to receive the second message, check the proof it contains, record the payment request containing at least the user's identity, the software editor's identity and the amount to be paid, and credit the editor with the said amount; these means are also able to compose a third message, which is a payment settlement message. This third message notably contains the identity of the means of payment and a digital signature for the offer, and is addressed to the payment module;

- the payment module is also able to resend this third message to the software interface;

- the software interface is also able to check the means of processing's signature against the offer parameters contained in the first message and, if they agree, authorise the software's use.

In a first variation, the means of message and payment processing are made up of a remote payment server linked to the payment module via a telecommunications network; this payment server receives and processes the second message and then composes and sends the third message. This payment server totals up the elemental credits in order to

periodically transfer to the software editors the amounts owing to them.

In a second variation, the means of message and payment processing include secure means containing at least the user's identity; these means are additionally able to receive the second message, check the proof it contains, record the payment request and compose the third, payment settlement, message, and also include a remote payment server able to credit the software editor.

In this variation, the secure means can include a smart card reader with a smart card containing the user's identity; this card is able to receive the second message, check the proof it contains, record the payment request and compose the third, payment settlement, message.

The server is regularly updated with all requests recorded in the card, which correspond to the use of software programs, via a telecommunications network.

The card may be either of prepay (in the form of an electronic wallet, for example) or post-pay type.

Both prepay and post-pay cards are able to build up a file containing the settled requests and corresponding amounts; the payment settlement message is only sent with its digital signature once this file has been updated.

The purpose of the present invention is also to provide a payment module for a payment system for software program use, the characteristics of which are that it is made up of the following:

- the means of processing a first message, notably containing a software editor's identity, software use offer parameters and a digital signature for at least part of that software use offer;

- the means of sending this message to a user;

- the means of receiving an acceptance from said software program user;

- the means of composing a second message requesting payment, notably containing the user's identity and editor's identity together with proof that the user accepts the offer;

- the means of receiving and processing a third message containing a digital signature constituting proof of payment.

The purpose of the present invention is also to provide the means of processing messages and payments for a payment system for software program use, the characteristics of which are that it is made up of the following:

- the means of receiving a payment request message from a payment module, in which that message notably contains a user's identity and a software editor's identity together with proof that the user accepts the software use offer made to him/her;

- the means of checking that proof;

- the means of recording the payment request with at least the user's identity and the software editor's identity, the amount to be paid and

means able to credit the software editor with said amount;

- the means of also composing a payment settlement message, notably containing the identity of the means of payment and a digital signature constituting proof of payment;

- the means of sending this message to a payment module.

Brief description of the drawings

- Figure 1 shows a system complying with the first variation of the invention;

- Figure 2 shows a certification tree with a chain of certificates;

- Figure 3 shows a system complying with the second variation of the invention.

Detailed description of the preferred embodiment

Figure 1 shows a PC-compatible personal computer supposed to contain a software program (L) whose use we wish to control. This software program is coupled with a software interface (IL), hereinafter called "MERCHANT", that communicates with the payment system itself. It also shows a payment module (W), hereinafter called "WALLET". The figure also shows a remote payment server (SP), linked to the WALLET module by a transmission line (not shown). The software editor is marked E.

In the variation shown in Figure 1, when software program L has decided to request a new payment, an offer message, labelled "1", is sent by the MERCHANT

interface to the WALLET module. This offer message can contain the following:

- software editor's identity;

- offer description, in text that can be understood by the user, explaining what he/she will obtain in return for making payment (e.g. "30 minutes' additional use" or "Scene 3: length 25 minutes");

- price (amount, currency, etc.);

- PC's internal clock date and time;

- an internal random number;

- a signature belonging to the offer's software editor, in the form S_E (offer$_h$, price) where offer$_h$ means "summarised offer data".

The WALLET module receiving this message will ask the user (U) if he/she agrees to accept that offer. For example, a window is displayed on the screen, showing the offer's description, date and time, the payment amount and currency, and the same price converted into French Francs. This display is represented by arrow 1a in Figure 1.

If user U agrees to the offer, he/she clicks (for example) an "Agree" button (this reply is represented by arrow 1b in Figure 1). The WALLET module then sends message 2, "payment request", to server SP. This message can contain the following:

- a summary of offer$_h$, the price, date and time, random number, and signature S_E (offer$_h$, price);

- the identity of user U and the identity of software editor E;

- proof that the customer agrees to buy that offer. The type of proof can depend on how the invention is implemented; it may consist in a password sent to payment server SP, a secret code contained in a smart

5 card that itself provides server SP with encrypted proof, signature, etc.

The fact that a summary of the offer ("offer$_h$") is sent rather than the complete offer means that the customer need not reveal to server SP what he/she has

10 selected, without preventing checking by server SP.

The payment server SP that receives the payment request (marked 2 in Figure 1) then performs the following operations:

- checking the proof given by the customer;

15 - converting the amount into French Francs if necessary;

- checking the user's consumption; for example, server SP checks that the user's total consumption since the beginning of the period is less than the authorised

20 amount allocated to that user (post-pay customers), or else checks that the total consumption is less than the provision built up by the user for that use (prepay customers);

- recording the payment request so that it can later

25 perform the payment operations; this record contains at least the following information:
  - user's identity
  - software editor's identity
  - price

30 - date and time, summary of offer$_h$ etc.

SP 16448.C/RS

- it composes message 3, the payment settlement message, which will prove to the software program and its "MERCHANT" interface that payment has indeed been made; in order to provide verifiable proof, this payment settlement message will contain the following information:
  - server SP's identity
  - signature S_{SP} (offer$_h$, price, random number, date-time) from the payment server

The WALLET module simply sends the message it receives to the MERCHANT interface.

The MERCHANT interface checks the payment settlement message's signature S_{SP} (offer$_h$, price, random number, date-time) against the parameters of the offer previously sent. If these agree, software L can continue to run.

Periodically, every month for example, server SP calculates each user's total consumption and triggers (for post-pay customers) actual payment of the sums owing by means of a customer-held bank or credit card, whose card number must be known in advance, or by direct debit from the customer's account.

Prepay users pay by choosing to top up their balance via an intermediary.

The total calculated per software editor means that the amount owed to each software editor can likewise be calculated.

The dotted lines in the drawing in Figure 1 correspond to the financial flow from server SP to the software editor.

To set up the different signatures mentioned above, a system using a public key with a certification tree can be used. This is in fact one of the rare solutions allowing simple, safe, open and internationally recognised systems to be designed.

The principles of this technique are well known. Its implementation is shown in the diagram in Figure 2. An authority (A) defines the certification tree's "root", containing the system's different participants:

- the software editors using this means of payment
- the payment servers (SP)
- the intermediaries; in the example shown in Figure 2, these could be a country's software editors association (SYND) and a national regulatory authority governing that country's Internet servers (SINT).

In this way, when a software program produced by a certain software editor is used by a user corresponding to a given SP server, one or more of the certificates attached to messages 1 and 3 are used to check the signatures.

In offer messages (message 1), the software editor (E) can send server SP a message containing the summary of $offer_h$, the price, date-time, random number, signature S_2 ($offer_h$, price), the E certificate sent by SYND, and the SYND certificate sent by A.

Server SP, which knows A's public key, checks the SYND certificate sent by A, using A's public key. It therefore obtains the SYND public key securely and checks the E certificate sent by SYND, using the SYND

public key. It therefore obtains the E public key securely and can finally check signature S_E.

The variation described above can be classified as an "online" solution, as the user must connect, using the Internet for example, to server SP at each payment request. This version is only acceptable for infrequent payments (for example, to receive a 2-hour film on DVD-ROM).

The present invention envisages another variation better suited to repeat payments. This variation is described in Figure 3. It assumes the presence of a card reader (LC) and a card (C). As the card is a secure medium, it replaces server SP in the case of messages 2 and 3, which then pass between module W and card reader LC. This variation can be classified as an "off line" solution, unlike the former variation. Software editor E is still paid by payment server SP, which periodically receives the information recorded in the card (line PP).

Card C may be of two types:

• Prepay cards ("electronic wallet" type, for example): the balance is reduced each time a payment request message is processed. There is therefore no risk of unpaid debts, as the cards must have been credited before being emptied; however, the number of times the software has been used must be recorded in order to be able to pay the software editors according to use made of their software. This may be done when the cards are topped up again, for example;

• Post-pay cards: there is a risk that the software use recorded in the card may never reach the intermediary and so the customer is never debited, with the result that the editors of the software used are never

5   credited. The way of handling this problem consists in restricting payments to a certain limit and/or making users pay a larger deposit than that limit, dissuading the users from having their card "disappear".

10

In terms of the exact mechanisms used, the second variation is very similar to the first, except that server SP is replaced by card C. This card must therefore contain a file recording all use and that, as

15   is the case with server SP, will contain the transaction records, themselves containing at least the following information:
    - user's identity
    - software editor's identity

20   - price.

If we allow a little security to be lost in order to avoid the additional cost of the card reader, the card can be replaced by an integrated means of recording within the PC.

25   To prevent the payment requests file from being too easily changed or erased, techniques consisting in fragmenting/scattering its information over the entire disk must be used; their complexity will offer a barrier, admittedly less strong than the physical

30   security offered by smart cards, but sufficient in many cases.

CLAIMS

1. A payment system for use of a software program (L) stored on a medium, whereby said software contains an interface (IL) and said system is made up of a payment module (W) together with the means of message and payment processing (SP), and whereby the functions of these means are as follows:

the software interface (IL) is able to compose a first message (1) offering use of the software; said first message (1) notably contains the identity of the software editor (E), offer parameters and the editor's digital signature for at least part of the software offered, and is sent to the payment module (W);

the payment module (W) is able to receive said first message (1), display it (1a), receive the acceptance (1b) of the software user (U) should he/she so accept, and, if so, compose a second message (2) requesting payment, notably containing the identity of the user (U) and of the software editor (E) together with proof that the user (U) accepts the offer; said module (W) is also able to send said second message (2) to the means of message and payment processing (SP);

the means of message and payment processing (SP) are able to receive the second message (2), check the proof it contains, record the payment request with at least the identity of the user (U) and of the software editor (E) and the amount to be paid, and credit the editor (E) with said amount; said means are also able to compose a third message (3), which is a payment settlement message. This third message (3) notably

SP 16448.C/RS

contains the identity of the means of processing and a digital signature constituting proof of payment, and is addressed to the payment module (W);

the payment module (W) is additionally able to resend said third message (3) to the software interface (IL);

the software interface (IL) is additionally able to check the means of processing's signature against the offer parameters contained in the first message and, if they agree, authorise use of the software program (L).

2. A system in accordance with claim 1, whereby the digital signature by the editor of at least part of the offer and the digital signature constituting proof of payment are both public key signatures with certification trees, whereby an authority (A) defines the root of the certification tree containing the system's different participants, notably the software editors (E) and payment servers (SP), and whereby one or more certificates are attached to the first and third messages (1) (3) for signature checking.

3. A system in accordance with claim 1, whereby the means of message and payment processing are made up of a remote payment server (SP) linked to the payment module (W) by a telecommunications network, and whereby said server (SP) receives and processes the second message (2) and composes and sends the third message (3); said payment server calculates the total consumption of each user for all of the software

editors in order to impose payment by said user and causes the sums owing to each software editor to be transferred by all of the users.

4. A system in accordance with claim 1, whereby the means of message and payment processing includes secure means (LC, C) containing at least the identity of the user (U); said means are additionally able to receive the second message (2), check the proof it contains, record the payment request and compose the third, payment settlement, message (3), and also include a remote payment server (SP) able to credit the software editor (E).

5. A system in accordance with claim 4, whereby the secure means include a smart card reader (LC) with a smart card (C) containing the user's identity, and whereby said reader and card are able to receive the second message (2), check the proof it contains, record the payment request and compose the third, payment settlement, message (3) with the proof of payment.

6. A system in accordance with claim 5, whereby the card (C) is of the prepay type and contains a balance and whereby the card is able to debit said balance with the request amount at each payment request.

7. A system in accordance with claim 6, whereby the prepay card (C) forming the payment settlement

message is able to insert into said message proof that the requested amount has been debited from the card.

8. A system in accordance with claim 6, whereby the prepay card (C) is able to build up a file containing the settled requests and corresponding amounts, and whereby the payment settlement message is only sent with its digital signature once this file has been updated.

9. A system in accordance with claim 8, whereby the prepay card (C) can be topped up, and whereby the file it contains is first transferred to the payment server (SP) during the topping-up process, for transferring funds to the software editors.

10. A system in accordance with claim 6, whereby the prepay card (C) is of the "electronic wallet" type.

11. A system in accordance with claim 5, whereby the card (C) is of the post-pay type.

12. A system in accordance with claim 11, whereby the post-pay card (C) is able to build up a file containing the settled requests and corresponding amounts, and whereby the payment settlement message is only sent with its digital signature once this file has been updated.

13. A system in accordance with claim 12, whereby the card's file is transferred to the payment server (SP) for transferring funds to the software editors.

5   14. A payment module (W) for a payment system for software program use, the characteristics of which are that is made up of the following:

- the means of processing a first message (1), notably containing the identity of a software editor (E), software use offer parameters and a digital signature for at least part of said software use offer;

- the means of sending this message (1a) to a user (U);

- the means of receiving an acceptance (1b) from said software program user (U);

- the means of composing a second message (2) requesting payment, notably containing the identity of the user (U) and of the software editor (E) together with proof that the user (U) accepts the offer;

- the means of receiving and processing a third message (3) containing a digital signature constituting proof of payment.

25

15. A means of message and payment processing (SP) for a payment system for software program use, the characteristics of which are that is made up of the following:

- the means of receiving a payment request message from a payment module (W), in which said message

notably contains the identity of a user (U) and of a software editor (E) together with proof that the user (U) accepts the software use offer made to him/her;

5 • the means of checking that proof;

• the means of recording the payment request with at least the identity of the user (U) and of the software editor (E), the amount to be paid and the means of crediting the software editor (E) with

10 said amount;

• the means of also composing a payment settlement message (3), notably containing the identity of the means of processing and a digital signature constituting proof of payment;

15 • the means of sending said message (3) to a payment module (W).

16. A means of message and payment processing (SP) for a payment system for software use, the

20 characteristics of which are that it includes secure means comprising a smart card reader (LC) with a smart card (C) containing the identity of a software user, whereby the card reader and card are able to receive a message containing proof that the user has accepted a

25 software use offer, check said proof, record a payment request and compose a payment settlement message (3) containing proof of payment.

17. A means of message and payment processing (SP)

30 in accordance with claim 16, whereby the card (C) is of the prepay type and contains a balance and whereby the

SP 16448.C/RS

card is able to debit said balance with the request amount at each payment request.

18. A means of message and payment processing (SP) in accordance with claim 17, whereby the prepay card (C) forming the payment settlement message is able to insert into said message proof that the requested amount has been debited from the card.

19. A means of message and payment processing (SP) in accordance with claim 17, whereby the prepay card (C) is able to build up a file containing the settled requests together with the corresponding amounts, and whereby the payment settlement message is only sent with its digital signature once this file has been updated.

20. A means of message and payment processing (SP) in accordance with claim 17, whereby the prepay card (C) can be topped up, and whereby the file it contains can be transferred during the topping-up process.

21. A means of message and payment processing (SP) in accordance with claim 17, whereby the prepay card (C) is of the "electronic wallet" type.

22. A means of message and payment processing (SP) in accordance with claim 16, whereby the card (C) is of the post-pay type.

FIG.1

FIG.2

2/2

FIG.3

SP 16448.C RS

Declaration, Power Of Attorney and Petition

WE (I) the undersigned inventor(s), hereby declare(s) that :

My residence, post office address and citizenship are as stated below next to my name,

We (I) believe that we are (I am) the original, first, and joint (sole) inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled

" PAYMENT SYSTEM FOR SOFTWARE PROGRAM USE"

the specification of which

☐ is attached hereto.

☐ was filed on

as Application Serial No.

and amended on

☒ was filed as PCT international application

Number PCT/FR00/01023

on April 19, 2000

and was amended under PCT Article 19

on

We (I) hereby state that we (I) have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We (I) acknowledge the duty to disclose information known to be material to the patentability of this application as defined in Section 1.56 of Title 37 Code of Federal Regulations.

We (I) hereby claim foreign priority benefits under 35 U.S.C. § 119 (a)-(d) or § 365 (b) of any foreign application(s) for patent or inventor's certificate, or § 365 (a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed. Prior Foreign Application (s)

Application No.	Country	Day/month/Year	Priority Claimed
99 04963 ✓	FRANCE	20 APRIL 1999	☒ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO

We (I) hereby claim the benefit under Title 35, United States Code, § 119 (e) of any United States provisional application(s) listed below.

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

We (I) hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of prior application and the national or PCT International filing date of this application.

Application Serial No.	Filing Date	Status (pending, patented, abandoned)

And we (1) hereby appoint : Norman F. Oblon, Registration Number 24,618; Marvin J. Spivak, Registration Number 24,913; C, Irvin McClelland, Registration Number 21,124; Gregory J. Maier, Registration Number 25,599; Arthur I. Neustadt, Registration Number 24,854; Richard D. Kelly, Registration Number 27,757; James D. Hamilton, Registration Number 28,421; Eckhard H. Kuesters, Registration Number 28,870; Robert T. Pous, Registration Number 29,099; Charles L. Gholz, Registration Number 26,395; William E. Beaumont, Registration Number 30,996; Jean-Paul Lavalleye, Registration Number 31,451; Stephen G. Baxter, Registration Number 32,884; Richard L. Treanor, Registration Number 36,379; Steven P. Weihrouch, Registration Number 32,829; John T. Goolkasian, Registration Number 26,142; Richard L. Chinn, Registration Number 34,305; Steven E. Lipman, Registration Number 30,011; Carl E. Schlier, Registration Number 34,426; James J. Kulbaski, Registration Number 34,648; Richard A. Neifeld, Registration Number 35,299; J. Derek Mason, Registration Number 35,270; Surinder Sachar, Registration Number 34,423; Christina M. Gadiano, Registration Number 37,628; Jeffrey B. McIntyre, Registration Number 36,867; William T. Enos, Registration Number 33,128; Michael E. McKabe Jr., Registration Number 37,182, Bradley D. Lytle, Registration Number 40,073 and Michael R. Casey Registration Number 40,294 ; our (my) attorneys, with full powers of substitution and revocation, to prosecute this application and to transact all business in the Patent Office connected therewith; and we (I) hereby request that all correspondence regarding this application be sent to the firm of OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, P.C., whose post Office Address is : Fourth Floor, 1755 Jefferson Davis Highway, Arlington, Virginia 22202.
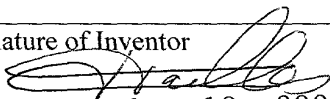
We (I) declare that all statements made herein of our (my) own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardise the validity of the application or any patent issuing thereon.

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Signature of Inventor

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